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July 21, 2017

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BLM Price Field Office's December 2017 Oil and Gas Lease Sale, DOI- BLM-UTGO20 -2017-0030-EA (June 2017)

Part I - Background and Response to the Summary Report of the Cultural Resource Inspection for the December 2017 Oil and Gas Lease Sale

Background

I am an independent consultant living in Emery County, Utah with a background in cultural resources. I have continuously inventoried the Molen Reef since the 2013 lease sale in addition to the many years in which I have explored the Molen Reef prior to the first lease sale. I support URARA's recommendation to defer the December 2017 lease parcels until the proper management prescriptions are put in place to protect the cultural resources in the lease parcels. I also support URARA's recommendation to expand the ACECs to include the cultural resource areas.

Additional information is being provided to Amber Koski of the Price Field Office as a part of my comments. This information includes sensitive maps, photographs, examples of vandalism, and a few site descriptions.

This list compiles my comments and clarifications in response to the Summary Report of the Cultural Resource Inspection for the December 2017 Oil and Gas Lease Sale—much of which is quoted or compressed into the EA. This list will quote said report and respond to each quote.

1) Quote: "Johnathan provided location data as well as photographs and descriptions of sites."

The information given to the BLM included GPS points, photographs of each site, and descriptions of each site. Descriptions included (1) cultural affiliation, (2) resource it identifies, (3) direction the site faces, (4) rough measurements of prominent rock art features, (5) distance of site from the ground, and (6) any vandalism noted at the last time of visitation.

These are the requirements that Amber Koski asked URARA to provide to verify the presence of the resource.

2) *Quote: "The information provided by Johnathan Bailey and URARA as part of their "red dot map" was collected by members hiking through the Molen Reef areas. The data is not associated with any formal Cultural Resources surveys."*

URARA paid Steve Manning to formally survey and document some of the cultural resources that I identified. His work developed a significant portion of the documented sites within the Molen Reef region, specifically within areas of the first reef, the second reef, and Sid and Charlie region. If the BLM is referring to transects, it would be best to specify.

3) *Quote: "Data presented at the May 11, 2017 consulting parties meeting also indicated that Diane Orr and Johnathan Bailey have located lithic scatters between the first and second reefs."*

Data presented at the May 11, 2017 consulting party meeting indicated that lithic scatters were *most dense* along migration corridors; along the "second reef," a geological anticline including Lower Short Canyon, Upper Red Hole Wash, and Lower Molen Seep; and the "third reef," a smaller geological anticline that includes Dry Wash, Lower Red Hole, and Horn Silver Gulch. It also identified veritable "hot-spots" that indicated high-densities of lithic scatters that we believed to qualify as lithic landscapes (cultural density map is also attached to the sensitive comments).

We also presented and offered information on numerous new archaeological site discoveries, in addition to numerous historic signature / art sites, that were not reported in the Summary Report of the Cultural Resource Inspection for the December 2017 Oil and Gas Lease Sale.

4) *Quote: "Forty-one documented sites are located within the parcel, with an additional nineteen reported to the BLM by the URARA in collaboration with Johnathan Bailey, for a total of 60 known or reported sites."*

My current site database *for the proposed lease parcels* show a total of 88 points indicating the locations of rock art and places of habitation. The SWCA parcels did not appear to overlap with any or much of this data. Most of these resources appear to be undocumented.

Part of this discrepancy is due to the bundling of site information within the Summary Report of the Cultural Resource Inspection. While large "linear sites" are occasionally necessary for site documentation, that is generally an on-the-ground determination made by an archaeologist.

While not all of the points provided to the BLM mark individual sites, they do indicate points with multiple archaeological features spread over a large area. As a rule of thumb, too many sites is less concerning than too many features bundled under a single site.

The BLM should not minimize or bundle points provided by consulting parties into individual sites until an archaeologist has documented said site(s) and evaluated the best way to describe and organize archaeological features in a way that accurately represents the size and presence of cultural resources within lease parcels. In its current form in the EA and cultural report, the BLM has inaccurately represented the data we provided them.

5) * *Quote: "Previous survey data and examination of previously documented sites as well as the site information provided by URARA and Johnathan Bailey suggest the Molen Reef area holds a medium potential for the discovery of additional sites"*

Since 2014 we have continued to discover additional sites on a trip-by-trip basis. Given the high-density of cultural sites in surveyed areas and the lack of cultural sites in areas that have not been surveyed, the probability of additional sites is nearly as close to guaranteed as mathematically possible.

The BLM reports that only 2.9% of the Molen Reef has been surveyed for cultural resources. Considering that 97.1% of the proposed December 2017 lease sale area has *not* been formally surveyed for cultural resources and that the data provided by both URARA and myself indicate (1) numerous sites previously unknown to the BLM (*many of which remain undocumented*), (2) the probability for additional unknown site densities, and (3) lithic landscapes that have not been reported or considered by the BLM, this strongly indicates that, not only is there a very high potential for the discovery of unknown sites, but there are many sites that we are aware of that the BLM has not considered in these reports. In other words, there is a guaranteed potential for the presence of sites not included in the EA or Cultural Report because they have already been identified but not mentioned by the BLM in these reports.

6) * *Quote: "Documented and reported sites also appear to occur most frequently in what is called the "second reef," which is a North-South trending ridge of sandstone which occurs to the east of the Molen Reef."*

Our Molen Reef site database indicates that sites most frequently occur in the first, second, and third reefs. While the cultural resources appear to occur mostly frequently in these North-South trending ridges of sandstone, they are evenly distributed between the three.

7) * *Quote: "The surveys documented one prehistoric artifact scatter recommended eligible and one prehistoric lithic scatter recommended eligible. One additional cultural resource not associated with a survey was documented and not evaluated for eligibility to the NRHP. The site is a prehistoric dry cave."*

This dry cave is commonly known as Clyde's Cavern (42Em177). The cultural resources reported to have occurred at this site include the burial of a child and mother, two atlatls, masonry, a single pictograph, a Desert Archaic fur robe, figurine fragments, sandals, shovels, rare coprolite deposits, key details about the Fremont's use of maize, and many other artifacts outlined in the Report of Excavations at Clyde's Cavern (42Em177), Emery County, Utah by Henry G. Wylie, published by the Department of Anthropology, University of Utah, July, 1971.

8) * *Quote: "Based on the lack of cultural resource sites identified within the parcel [090], and the lack of identified sites in adjacent parcels, the parcel is expected to have a low site density."*

Our inventories have frequently identified lithic scatters on the sandstone layer overlooking the Red Ledges; occasionally extending to the two-track route on the west. This lithic layer encompasses a significant portion of the parcel. This information was presented in the May 11, 2017 meeting for consulting parties and in the sensitive material of these comments.

9) *Quote: "the parcel [091] is expected to have a low site density."*

The Sid and Charlie area is notorious for its high densities of cultural resources. The information presented at the May 11, 2017 meeting for consulting parties strongly disagreed with this finding. Also, refer to the attached maps in the sensitive material.

10) *Quote: "Based on the cultural resource site identified within the parcel [092], and the lack of identified sites in adjacent parcels, the parcel is expected to have a low site density."*

We have identified additional petroglyphs, lithic scatters, important habitation sites, proto-historic timber procurement sites, and a single metate cache in this area. Much of this information was presented in the May 11, 2017 meeting for consulting parties but is not identified within the cultural report (it is also attached to the sensitive material).

While our inventories of 092 are incomplete, the prevalence of rock art and structures underlined by a dense lithic landscape would, in our opinion, qualify this parcel as an important cultural area with a high density of cultural resources.

11) *Quote: "Two previously documented sites not associated with a survey are located within the parcel [093]. The sites consist of a Fremont habitation site and rock art, both are determined eligible to the NRHP. URARA has also reported an additional rock art site in the parcel. Additionally the parcel contains one ongoing NAGPRA case. The two documented sites and the NAGPRA case are located within the North Salt Wash ACEC"*

The rock art site and NAGPRA case were unknown to the BLM at the time of creating the North Salt Wash ACEC. I would suggest that the BLM carefully research the new information and determine whether (1) the ACEC adequately buffers the previously unknown features and (2) contains the proper management prescriptions for the proper care of these resources. Our database also indicates that an additional Fremont structure, for a total of two structures, is present within the parcel.

12) *Quote: URARA has also reported an additional three undocumented sites within the parcel [094], which consist of prehistoric structures and rock art. All but two of the sites fall within the Dry Wash ACEC.*

During the May 11, 2017 trip following the meeting for consulting parties, Diane Orr and Jonathan Bailey pointed out and described the locations of lithic scatter concentrations within this parcel. These are undocumented features that are not described in the Summary Report of the Cultural Resource Inspection for the December 2017 Oil and Gas Lease Sale.

13) *Quote: "Based on the low number of cultural resource sites identified within the parcel [100], the low number of identified sites located within the buffer, exposed surface geology and soil composition that is not conducive to rock art or habitation sites, the parcel is expected to have a low site density."*

Our database indicates that eight rock art / habitation sites are located within parcel 100, surrounded by a much larger lithic landscape indicated both in the May 11, 2017 meeting for consulting parties as well as Jonathan Bailey's site descriptions provided to the BLM. The lithic landscape has not been described in the Summary Report of the Cultural Resource Inspection (it incorporates a significant area of parcels 100 and 088).

General Comments

1) The BLM reports that only 2.9% of the Molen Reef has been surveyed for cultural resources while simultaneously reporting that the *"Molen Reef area holds a medium potential for the discovery of additional sites."* Considering that 97.1% of the proposed December 2017 lease sale area has *not* been surveyed for cultural resources and that the data provided by both URARA and myself indicate (1) numerous sites previously unknown to the BLM (*many of which remain undocumented*), (2) the probability for additional unknown site densities, and (3) lithic landscapes that have not been reported or considered by the BLM. Collectively, this strongly indicates that, not only is there a proven potential for the discovery of additional sites, but that the BLM does not have enough information to make a reasonable and good faith effort to mitigate all of the potential impacts to the on-the-ground cultural resources.

This is further demonstrated in the EA in which the BLM states, *"future development associated with leasing could contribute to potential impacts on cultural resources. Development of oil and gas wells involves the construction of physical facilities, which may be visible from archaeological sites. Over time, development could impact the setting and feeling of both the individual landscapes surrounding sites and the overall cultural landscape and feeling of the Molen Reef Area. Additionally, improvement and new development of roads could increase dust and potentially cover or abrade rock art panels. Road development may also increase public access, putting sites at risk from vandalism. Additionally, the impacts to the cultural resources have the potential to be impacted by the current and future recreation visitation through vandalism and/or dust generated from vehicle traffic on nearby roads."*

In this statement, the BLM recognizes that future leasing has the potential to (1) destroy viewsheds associated with cultural sites and site features, (2) damage rock art by coating it with dust, (3) *physically remove, abrade, or otherwise damage rock art and cultural features*, and (4) facilitate in the destruction of cultural resources by increasing public access. Not only do these threats demonstrate that the BLM cannot adequately make a good faith effort to assess or mitigate these potential damages to 97.1% of the leased parcels in which they have no formal cultural resource surveys, but all of these threats, collectively and individually, constitute adverse effects to the cultural resources.

2) While not all points on the *"red dot map"* mark individual sites, a majority of the points demonstrate locations in which multiple archaeological features are present. the BLM should not minimize or bundle points provided by consulting parties into individual sites until an archaeologist has documented said site(s) and evaluated the best way to describe and organize archaeological features in a way that accurately represents the size and presence of cultural resources within lease parcels. In its current form in the EA and cultural report, the BLM has inaccurately represented the data we provided them.

3) Considering that archaeological sites are most abundant in north-south trending ridges of sandstone, any undertakings that trend east-west (i.e. pipelines, access routes) have a high potential of significantly altering or completely destroying archaeological features. This creates a significant adverse effect that remains possible under the current EA guidelines.

4) While most of the cultural resources within the lease area are not included within any ACEC (*where NSO protections are not provided*), the NSO provides no real protections for cultural resources *within the existing ACECs*. The buffers are extended from the center of drainages and not from the cliff walls bordering the drainages (*where cultural resources are more likely to occur*). These sites, clustered on the edges of the ACECs, are frequently feet or yards away from land failing to provide NSO protections.

Part II - In Defense of a Cultural Landscape

Cultural topography

Near to iconographic landscapes such as the San Rafael Swell and Capitol Reef National Park rises a series of ridges, canyons, and other-worldly landscapes known collectively as the Molen Reef. For generations, humans have occupied and traveled through this topography; contributing to one of the most significant archaeological and cultural records available to the public.

As a whole, the Molen Reef paints a vivid picture of the First Americans--from plants used for food, medicine, and religious purposes, to culturally-saturated topography marked by rivers, intermittent water sources, migratory routes, and overlooks. The significance of these features is abundantly written in the landscape in the form of rock art, habitation sites, stone working sites, burials, and places in which grain was stored.

The rock art of the Molen Reef is found pecked, carved, and painted; displaying scenes ranging from daily life to powerful and private rituals. These vestiges are often evocative of present-day Native American practices that have been intricately described by Zuni, Hopi, Ute, and Shoshone elders; who trace the rock art and artifact assemblages to their ancestors and oral histories. Other sites, found near to the Molen Reef, may indicate the presence of Navajo sites yet to be identified.

At its earliest occupation, the Molen Reef was traversed by Clovis hunter-gatherers over 13,000 years ago. Their trademark tool, the Clovis point, has been reported near Molen Seep Wash and Horn Silver Gulch. Other early projectile points include a Great Basin Stemmed point reported in Molen Seep Wash. These tools are striking reminders of a landscape annotated by change.

Columbian mammoths, Antique bison, and other extinct megafauna may have once accompanied Clovis people in this ancient landscape.

Following in the steps of their predecessors, Desert Archaic people gathered plants such as Indian Rice Grass (*Oryzopsis hymenoides*) and high caloric nuts from the two-needle piñon pine (*Pinus edulis*). What couldn't be gathered was hunted with atlatls, or spear throwers, that have been found in places like Clyde's Cavern.

The Archaic period is pronounced by the first regional rock art depictions. Springs, overlooks, and creek-sides are notorious for the haunting, spirit-like paintings attributed to Barrier Canyon Style artists.

Paleoclimatic studies on packrat middens suggest that the people of this period may have experienced drought and the subsequent loss of food sources. This harsh and unforgiving climate is evident in their pictographs that display dramatic rainclouds, kachina-like figures, and rituals related to the reproduction of rainwater and game animals. Similarly, archaeologists have speculated that Barrier Canyon Style sites are often located in areas where game animals could be trapped, or areas directly impacted by runoff. In this way, and in others, traditional knowledge has carefully intertwined sites to their respective landscapes; further illustrated by sites that align to extraordinary astronomical events or acoustical abnormalities.

The Fremont followed, bringing agriculture and prolific art to the Molen Reef. From elaborately decorated human forms attributed to the Classic Vernal Style to the more personal images of San Rafael and Northern San Rafael variants, the Fremont period is segmented by diversity and pronounced by newly-economized life-ways.

From obsidian to turquoise, trade coupled the Fremont to the western community. This relationship is evident with easily- distinguished artifacts such as Ancestral Puebloan black-on-white ceramics and *Olivella* shells belonging to a predatory sea snail from the Pacific Ocean. But evidence of the Fremont's extensive trade network can be more obscure—from predominately Ancestral Puebloan symbols in rock art to fossilized marine bivalve mollusks (*Gryphaea*) that occur more frequently in areas like Wyoming. The topography of the Molen Reef with tight rocky canyons bordered by walkable clay-like plains encouraged exchange of all kinds, including technology and religious beliefs.

These migratory and trading routes are dissected by the presence of carved moccasins, sandals, feet, and bear prints. Found high on horizontal bedrock, often overlooking broad and unfolding landscapes, these thought-provoking images are rare, fragile, and notoriously difficult

to locate. While we may never know the exact meaning behind these symbols, their endemicity to the Molen Reef illustrates their inherent significance to this landscape. Whether the images represent some kind of path, map, clan marker, or some other meaning that has faded in the last thousand years, their presence cuts to the core of the artist's humanity, from their bare feet to their child's small footwear.

With the unique cultural topography of the Molen Reef comes a diverse relationship with plant-life. While not every plant is reported to have cultural uses, such as the rare *Astragalus musiniensis*, many species are vital to the movement of people and the concentration of cultural sites.

Two federally-listed endangered species of *Pediocactus* (*P. winklerii*, *P. despainii*) are found within all members of the Morrison Formation of the Molen Reef. While these plants are significant in their own right, they are also important to the cultural landscape. Lithic scatters and ancient rock quarries are found frequently near *Pediocactus* habitat. The fruit of this plant is edible and reported as a being culturally utilized.

More common, but culturally-significant plants, include several species of onions belonging to the *Allium* genus for flavor and seasoning (they also indicate the proper conditions for growing maize); the Utah Serviceberry (*Amelanchier utahensis*) for fruits, jams, and bows; and Skunkbush (*Rhus trilobata*) for fruit, jams, toothaches, cold symptoms, gastrointestinal issues, and basketry; and other plants, like *Castilleja* and *Cleome serrulata*, for pigment in rock art and pottery. While these plants serve as sample of the rich and diverse cultural landscape, they are a small example of the plants used by the first inhabitants of the Molen Reef.

Near to both species of *Pediocactus*, in the Brushy Basin Member of the Morrison Formation, remnants of a far more distant time are seen. Tracks and bones from the Upper Jurassic display life from 145 to 152 million years ago. As Desert Archaic and Fremont cultures interacted and perceived these prehistoric beasts, they left evocative stories painted near the fossilized remains, displaying other-worldly beasts with large teeth, dragon-like wings, claws, and elongated tails. Occasionally, fragmentary dinosaur bones were carried off and chipped into rare and meaningful tools, particularly projectile points. Elsewhere, in the Ferron Sandstone Member of the Mancos Shale, 66-100 million-year-old life-forms from the Upper Cretaceous are beautifully, albeit rarely, fossilized on the horizontal bedrock.

Before and after contact with Spanish explorers, Numic cultures found home in the erosional landscapes of the Molen Reef. While occasionally carved, Numic rock art is often painted with crayon-like blocks of ochre, charcoal, or other minerals that were directly applied to the rock.

These paintings display images of horses, bison, and human figures frequently within the confines of caverns, niches, or on the underside of boulders. Little is known about Numic rock art, especially within the Molen Reef.

Proto-historic to historic sites, presumably of Numic origin, are found scattered throughout the region, evidenced by stone circles, Shoshone brownware ceramics, lumber procurement sites, and worked glass tools.

This dynamic shifts within the historic period. Travelers among the Spanish Trail carved unique and unusual symbols into the walls of Molen Reef canyons, including arrows, crosses, and eyes. It shifts again with Mormon pioneers, who constructed corrals, stock ponds, and homesteads. The names and histories of these early settlers are memorialized in the topography. Places like Dutch Flat, formerly Deutsch Flat, record the birthplace of many new Americans while other places, like Dog Hollow, record the struggle to adapt in an unforgiving landscape, because “there wasn’t enough water for a dog to get a drink there.” The names of these pioneers are carved and painted on Molen Reef walls, from sheepherders and law enforcement, to travelers on the wagon trail between Horn Silver Gulch and Eagle Canyon.

Despite their presence in a new land, the rich history of the Molen Reef did not escape them. Early pioneer art mimics the paintings of Fremont and Barrier Canyon artists and their journals vividly describe the discovery of ancient artworks and artifacts. In other words, the history of the Molen Reef is cut as deep as the canyons themselves.

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Jonathan Bailey